

**Abstract:**

The present invention relates to compounds and methods useful for the detection and treatment of disorders associated with frameshift mutations in coding microsatellite regions. The compounds and methods are applicable in cancers, especially of DNA mismatch repair deficient (MMR) sporadic tumours and HNPCC associated tumours.

5 The compounds disclosed in the invention are useful for detection of disorders and in therapy such as e.g. immuno-therapy. The diagnostic methods relate to diagnosis and prognostic assessment of disorders associated with frameshift polypeptides originating from frameshift mutations in coding microsatellite regions of genes based on the

10 detection of immunological entities directed against said frameshift polypeptides in body fluids. With respect to the treatment of cancer, especially of DNA mismatch repair deficient (MMR) sporadic tumours and HNPCC associated tumours, the invention pertains to methods which use immuno therapy with combinatorial mixtures of tumour specific frameshift peptides to elicit a cytotoxic T-cell response specifically directed

15 against tumour cells for use in prevention as well as in curative treatment of cancers and precancers.